

What is claimed is:

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1. A capacitor comprising:
a case having a feedthrough hole;
a capacitor stack located within the case;
a coupling member having a base surface directly attached to the capacitor stack and a portion at least partially extending through the feedthrough hole, the coupling member having a mounting section;
a feedthrough conductor having a portion coupled to the mounting section;
and
a sealing member adjacent the feedthrough hole for sealing the feedthrough hole.
 2. The capacitor of claim 1, wherein the feedthrough hole is non-hermetically sealed.
 3. The capacitor of claim 1, wherein the base surface is butt-welded to a flat connection surface of the capacitor stack.
 4. The capacitor of claim 3, wherein the base surface comprises a planar surface.
 5. The capacitor of claim 1, wherein the mounting section comprises a hole and the feedthrough conductor is crimped within the hole.
 6. The capacitor of claim 1, wherein the mounting section comprises a hole and the feedthrough conductor is arc welded to the coupling member.

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10. The capacitor of claim 1, wherein the sealing member comprises an epoxy deposited around the feedthrough hole.

11. The capacitor of claim 1, wherein the sealing member comprises an elastic plug.

12. A feedthrough assembly for a capacitor, the feedthrough assembly comprising:

a coupling member for attaching to a capacitor stack of the capacitor, the coupling member having a mounting hole; and

a feedthrough conductor having a width dimensioned to fit within the mounting hole of the coupling member.

13. The feedthrough assembly of claim 12, wherein the coupling member includes a planar base surface for attaching to the capacitor stack of the flat capacitor.

14. The feedthrough assembly of claim 12, wherein the feedthrough conductor is welded within the mounting hole.

15. The feedthrough assembly of claim 12, wherein the feedthrough conductor is crimped within the mounting hole.

16. A capacitor comprising:
a case including a portion having a feedthrough hole;
a capacitor element having one or more conductive surfaces;
a feedthrough conductor; and
a coupling member having a first surface contacting one or more of the conductive surfaces of the capacitor element and second and third opposing surfaces contacting the feedthrough conductor and extending through the feedthrough hole.

17. The capacitor of claim 16, wherein the first surface is substantially perpendicular to the second and third opposing surfaces.

18. The capacitor of claim 16, further comprising a weld joining at least a portion of the first surface of the coupling member to the one or more conductive surfaces.

19. The capacitor of claim 16, wherein the second and third opposing surfaces are curved.

20. The capacitor of claim 16, wherein the coupling member has a portion outside the case and a portion inside the case.

21. The capacitor of claim 16, wherein the coupling member is electrically conductive.

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22. A capacitor comprising:
a case having a feedthrough hole;
an capacitor stack within the case;
an elastic plug mounted within the feedthrough hole, the plug having an inner hole; and
a feedthrough conductor coupled to the capacitor and extending through the plug inner hole;
wherein the plug electrically insulates the feedthrough conductor from the case.
23. The capacitor of claim 22, wherein the elastic plug includes a flange confronting an inner surface of the case.
24. The capacitor of claim 22, wherein the capacitor comprises a flat capacitor.
25. The capacitor of claim 22, wherein the feedthrough conductor is directly attached to the capacitor stack.
26. The capacitor of claim 22, wherein the plug has one inner hole.
27. The feedthrough assembly of claim 22, wherein the plug includes a first flange located inside the case and a second flange located outside the case.
28. The feedthrough assembly of claim 22, wherein the feedthrough conductor comprises an aluminum coupling member having a first end extending from a first end of the plug and having a second end extending from a second end of the plug and directly coupled to an active element of the flat capacitor.

29. An implantable medical device comprising:
one or more leads for sensing electrical signals of a patient or for applying electrical energy to the patient;
a monitoring circuit for monitoring heart activity of the patient through one or more of the leads; and
a therapy circuit for delivering electrical energy through one or more of the leads to a heart of the patient, wherein the therapy circuit includes one or more capacitors, each capacitor comprising:
a case having a feedthrough hole;
a capacitor stack located within the case;
a coupling member having a base surface directly attached to the capacitor stack, the coupling member having a mounting hole;
a feedthrough conductor having a portion extending into the mounting hole; and
a sealing member adjacent the feedthrough hole for sealing the feedthrough hole.

30. The implantable medical device of claim 29, wherein the coupling member comprises a base abutting a surface of the capacitor stack.

31. The implantable medical device of claim 30, wherein the capacitor stack includes two or more connection members, each connection member having an edge face, the surface of the capacitor stack comprises at least one of the edge connection member faces.

32. The implantable medical device of claim 29, wherein the sealing member comprises an elastic plug mounted within the feedthrough hole, the elastic plug having an inner hole, the feedthrough member mounted within the inner hole.

33. The implantable medical device of claim 32, wherein the elastic plug is interference fitted within the feedthrough hole.

34. A method for assembling a capacitor, the method comprising:
crimping a feedthrough conductor to a coupling member;
attaching the coupling member to a capacitor stack of the flat capacitor;
inserting the capacitor stack into a capacitor case so that the feedthrough conductor passes through a feedthrough hole in the capacitor case; and
sealing the feedthrough hole.

35. The method of claim 34, wherein attaching the coupling member comprises butt-welding the coupling member to a flat connection surface of the active element.

36. The method of claim 34, wherein sealing the feedthrough hole comprises non-hermetically sealing the feedthrough hole by depositing an epoxy around the feedthrough hole.

37. The method of claim 34, wherein sealing the feedthrough hole comprises mounting an elastic insert within the feedthrough hole and inserting a feedthrough conductor through the elastic insert.

38. A method of sealing a feedthrough hole of a capacitor, the method comprising:

mounting an elastic insert within the feedthrough hole; and
inserting a feedthrough conductor through the elastic insert.

39. The method of claim 38, wherein the elastic insert has a flange for holding the elastic insert within the feedthrough hole.

mounting an elastic plug within the feedthrough hole so a first flange of the plug is on an inside of the case and so that a second flange of the elastic plug is on an outside of the case;



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